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ABSTRACT

Commenting on the trends toward the interlocking of emerging information societies and the growing interdependence of countries, this paper suggests the role that "informatics" (the rational and systematic use of information for planning and decision making) may play in the transition of societies into the information age. Two paradoxes challenging the builders of information societies are identified: countries must mold their own particular social situations in a context of wide international commitments, and countries involved in international cooperation agreements must also maintain their diversity. Suggestions for meeting the challenge include changing the basis for measuring the development of emerging countries from gross national product, literacy, or personal income criteria to how well the countries manage and apply their information sources and developing systems of national information resource management. The role of information in emerging information societies is outlined, including the results of the Intergovernmental Conference on Strategies and Policies for Informatics (SPIN) and an Intergovernmental Bureau for Informatics (IBI) survey on international informatics. The role of IBI is defined, and the paper concludes with a call for collaboration between IBI and the International Institute of Communications. A table of characteristics of ten newly industrialized countries is appended. (AEA)

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IIC Annual Conference 1979 London 9 - 13 September

Emerging Information Societies

In an Interdependent World

A Background Paper

prepared by

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Contribution to Plenary Session

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EMERGING INFORMATION SOCIETIES IN AN INTERDEPENDENT WORLD

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Intergovernmental Bureau for Informatics

To be delivered at the
1979 Annual Conference, International Institute of Communications
London, 10 September 1979

This 10th Annual Conference of the International Institute of Communications has chosen to consider two of the major trends confronting the world in the last decades of this century. Your recognition of the interlocking nature of emerging information societies and the growing interdependence of countries is well founded. I am particularly pleased to have this opportunity to comment on these trends and bring to your attention the role that informatics may play in the transition of societies into the information age.

Threshold Challenges

One of the fundamental characteristics of information societies, I believe, will be the internationalization of their economies and expanded socio-cultural relationships. If this is so, countries at all levels of development should take an active interest in the progress of their fellow nation states. There is little likelihood nor necessity for all countries to move at the same pace of transformation nor to seek or achieve the same goals. Bilateral and multilateral cooperation unquestionably must increase if the information age is to lead to the many benefits that have been attributed to it.

Perhaps I have already opened two paradoxical situations which can pose serious dilemmas both on a national and international level :

1. On the one hand countries must mould their own social situations according to their traditions and choices, but on the other, this must be done in the context of much wider international commitments.

2. An important result of international cooperation is often some form of agreement, a closer harmonization of practices in the interest of mutual betterment. However, one of the basic rationales of the leaders who will prepare international covenants is that they provide as much political, economic, social and cultural diversity as possible.

These paradoxes, Ladies and Gentlemen, are the threshold challenges to the builders of information societies.

A New Basis to Measure Development

The profound changes which are necessary to construct information societies can accurately be described as revolutionary. If we accept that there will be unprecedented political, economic and social transformations, then we must begin to re-think presently held development models, statistical measurements and quantitative indices which "rate" economic performance and social conditions of countries. We need new terms, concepts and bases to determine productivity and development.

Looking back less than two centuries will help to illustrate this point. If currently accepted criteria to classify the level of development of countries (such as GNP, literacy, personal income, etc) were applied in 1780 to Brazil, Canada, Great Britain, Portugal, Spain and the United States, surely the status of Brazil, Canada and the USA would have qualified them as less developed countries. We must not apply short sighted labels to today's so-called less developed countries because the information age requires many new measures of national performance.

Let us remove the blinders which may lead to the conclusion that information societies will only result from industrialized countries moving into a post-industrial status. It will be necessary to identify the characteristics of information societies in which products are largely intangible, productivity that has a new meaning and value, and working life that is radically altered. Nevertheless, we should not try to describe the future with outmoded approaches. Where should we begin our analysis of the information society ? I believe the framework can be constructed around the main thrust of these societies, which is how well they are managing and applying their information resources.

The criteria used to examine the proficiency of countries in adapting or adopting their particular brand of information society has to take into account the views of developing countries. It is in these assessments that the informatics and mass communication and media communities seem to have very much in common. National sovereignty in an interdependent world could be defined as the right of each nation to exercise choice and diversity regarding their internal political, economic and social structures while at the same time recognizing the requirement for a multiplicity of foreign relationships. This would allow those developing countries which choose to reject what they see as the negative side of industrialization which is asserted to be pollution, consumerism, social stratification, deterioration of the family, religion and so forth.

Even before the energy crisis, a number of countries have indicated that their national goals were not to replicate Western Europe or the United States. Rather, they wanted to create societies with a standard of living, work, leisure, housing, etc, which best suit their culture and traditions. Many of these countries have been the first to sieze upon informatics as a means for them to manage their own national resources, create the infrastructure and programmes to bring this into fruition.

I cannot underscore too strongly the need for all involved with designing future societies to give due recognition to the variation in national planning which will be required.

Managing National Information Resources

It is refreshing to see the number of national studies and actions taking place around the world in the field of information and communication policy. The governments of France (with Plan Calcul) and Japan (with a National Information System design) were among the first to declare their national strategies. Canada has produced a number of information, data processing, telecommunications, privacy and employment studies as building blocks to their information-communications policy. Sweden has developed or adopted legislation in a dozen areas under the heading : data policy. A presidential report in the United States entitled National Information Policy, published in 1976, called for a coordinated policy mechanism to be established in the White House.

All of these efforts have been motivated by a recognition of the rapid change being brought about by computerization and telecommunications. Many deal with regulatory matters or creating new legal regimes to address affects of these new techniques for information handling. They involve electronic mail. electronic funds transfer, copyright, video services, facsimile, fiber optics, satellites, and a host of other subjects. But they are pointing to one common end : the emergence of information societies.

Each of these activities is designed to examine the impact of information products and services, on present life and set forth future prospects. I have been impressed by the frankness of many of these studies, such as the Nora-Minc report in France. A canadian report on computer/communication policy issues was particularly pointed :

Information creates economic power. Information about market opportunities, consumer habits, commercial risks, competitors and profit opportunities has become as important to economic survival as possession of production plant and technological skills. The growth of the "knowledge base" in Canada is central to economic growth : as a generator of job opportunities ; as an indispensible component of the products and services sold; and as a means for improving efficiencies in the market-place.

From a socio-political viewpoint also, information is power. Information can be used or misused. Possession of information inaccessible to others, manipulation of the data, or denial of legitimate access, can lead to important shifts in the balance of power between consumers and producers, labour and management, people and government and between different regions and nations.

Role of Informatics in Emerging Information Societies

I was reminded recently of a statement I made during the Intergovernmental Conference on Strategies and Policies for Informatics (SPIN) held last September, which has been printed in InterMedia : "Today's developed countries are those which capitalized on the industrial revolution. Tomorrow, developed countries will be those which exploit the informatics revolution." This conclusion has been reinforced since that momentous conference in Torremolinos. This was an exciting event, Ladies and Gentlemen, some 78 national delegations assembled for 10 days to express their official position on the importance and future of informatics. After long deliberations a platform of 42 recommendations were unanimously approved and referred to national governments as well as IBI, UNESCO and other international organizations for implementation. An overview of the SPIN Conference would be this, it committed 78 countries to the use of informatics in their evolution toward information societies.

The collection, storage, use and dissemination of information are at the center of all informatics applications. The extensive use of computers and telecommunication systems sometimes seem to be driving informatics, but it is the "rational and systematic use of information for planning and decision-making which is the true objective of informatics." There is a close parallel between information content in informatics and this emphases, I understand, is pervasive in the media field. The information and knowledge which are the substance of informatics applications involve personal and non-personal (statistical, economic, commercial) types of information.

How is informatics taking shape at the national level today ? One of the inputs to the SPIN Conference was an IBI Survey on Strategy and Policies for Informatics Throughout the World. Detailed reports were provided to IBI from 68 countries which indicated that in 53, one or more governmental bodies, usually reporting to the Council of Ministers or Prime Minister, are responsible for informatics in central administrations. The objectives of these informatics policies and authorities are to set priorities in applications of data processing, integration of information systems in government agencies, control procurement, improve standardization, provide support for education and training, coordinate relations with telecommunication administrations, develop an endogenous industry and assess social impacts. An overwhelming number of these 68 countries want to expand their involvement in international organizations in the field of informatics.

What is IBI ? The IBI has been in a state of reformulation since its origination in 1961 under the auspices of the United Nations and UNESCO. It was first the International Computation Centre (ICC) because a computer center available to developing countries was thought to be appropriate in the days when so few computers existed. With a proliferation of data processing equipment the objectives of the ICC were modified to reflect the technological evolution. A plan was initiated in 1969 to transform the ICC into a new organization called IBI. This reorganization was completed in 1974 and at the present time IBI operates a variety of projects for its Member States and a number of developing countries which participate with us. The IBI is the sole organization with intergovernmental status specializing in informatics.

Among the most important international programmes of the IBI during 1979-1980 are the promotion of international agreements in this field, establishment of a conciliation mechanism for users and suppliers of informatics goods and services, promotion of harmonization of national legislation, technical standardization, and organization of the first World Conference on Transborder Data Flow Policies. This Conference, to be held in Rome from 22-27 June 1980, is very relevant to those involved with media and mass communications because it will highlight the political, economic and social implications of data flows. Data flows, as is well known rely on the free flow of information principle, just as is the case with the news media. Participation is not restricted to government officials or official delegates. Full particulars are available by contacting IBI.

Conclusion

In conclusion, may I again stress the need to consider emerging information societies within the context of an interedependent world. The ICC is to be congratulated for recognizing this linkage and for devoting its 10th Annual Meeting to what could well come an on-going debate.

Most of the Members States of IBI are developing countries and through active participation by their informatics leaders. We are never out-of-touch with the need to create improved national capabilities in many areas - almost as pre-conditions for their entry into an interdependent relationship - with the industrialized nations. The ICC has a world-wide constituency which, I understand is vocal on points of policy and principle. I would encourage this dialogue because without it, the directions which are charted for information societies may contain many of the past mistakes of this century and the last.

Informatics along with communication policy have a vital role to play and on behalf of IBI I would welcome collaboration with you on projects which lead to creation of information societies for all the countries on the world.

Further information about IBI and The World Conference on Transborder Data Flow Policies may be obtained from IBI, P.O. Box 10253
00144 Roma ITALY Telephone 5916041 Telex 612065.

ANNEX

One characteristic in the evolution of national economies about which most analysts can agree, is that the role of agriculture as a factor in Gross National Products will dramatically decline. A number of economists have tried to describe change in developing countries by inventing a new acronym: NIC -- Newly Industrializing Countries. These countries are those with the highest per-capita income behind the OECD industrialized group, and have a GNP which shows a shrinking agricultural base.

The following table of characteristics of 10 countries classified as NICs perhaps reveals more about these developments than traditional economists have identified:

STRUCTURAL CHARACTERISTICS OF THE NICs (1976)

	Population (million)	*Area (thousands sq. kilometers)*	*Inhabitants per sq. kilometer*	*GNP per capita (US$)*	*Distribution of GDP (%)*			*Merchandise trade (bill. US$)*		*Foreign trade turnover as % of GNP*	*Share of manufactures in exports (1975)*
					Agriculture	*Industry*	*Services*	*Exports*	*Imports*		
Korea	36.0	99	363	670	27	34	39	7.7	8.8	68	82
Taiwan	16.3	36	452	1,070	12	45	43	8.1	1.6	90	85
Mexico	62.0	1,973	31	1,090	10	35	55	3.3 (a)	6.0 (a)	14 (a)	52 (a)
Brazil	110.0	8,512	12	1,140	8	39	53	10.1	13.6	19	27
Yugoslavia	21.5	256	83	1,680	15	43	42	4.9	7.4	34	72
Portugal	9.7	92	105	1,690	18	43	39	1.8	4.3	37	71
Hong Kong	4.5	1	4,500	2,110	2	34	64	8.5 (b)	8.9 (c)	183 (b, c)	97 (b)
Greece	9.1	132	68	2,590	18	31	51	2.5	6.0	36	48
Singapore	2.3	1	2,300	2,700	2	35	63	6.6 (b)	9.1 (c)	252 (b, c)	43 (b)
Spain	35.7	505	70	2,920	9	39	52	8.7	17.5	25	70

a) Excluding trade of the free trade border zone.
b) Including re-exports.
c) Including imports for re-exports.

Source : World Development Indicators, World Bank.

In 9 of the 10 countries selected, the services sector is greater than the industry sector. For Taiwan, there are only two percentage points separating services from predominance in that economy. What does this demonstrate? It proves that development in these countries is not following the early 20th Century model of industrialization, but that they have chosen a new road -- which is the direction of information societies.

The economists and statisticians who created the term NIC have misread the indicators. What has in fact emerged are service economies and should be appropriately called Service Economy Countries (SEC).